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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,293	08/01/2003	Sumio Kuroda	1100.68251	5077

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EXAMINER	
MERCEDES, DISMERY E	

ART UNIT	PAPER NUMBER
2651	

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/632,293	KURODA ET AL.	
	Examiner	Art Unit	
	Dismery E. Mercedes	2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 August 2003* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 2/1/2005 have been fully considered but they are not persuasive.

Regarding claims 5-8, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "a transfer clock pattern having low density is formed by magnetic transfer" and "a clock pattern is formed by increasing the density by multiplying the frequency" and "the clock pattern itself is made after the magnetic transfer" (page 4, 2nd paragraph of Applicant Remarks) are not recited in the rejected claim(s). Thus, such features that makes the transfer clock pattern of the present invention different from the clock pattern of Ishida are not recited in the claim. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Regarding Claim 2, the applicant argues that there is no motivation to combine references. Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Regarding Claims 3-4, the applicant argues that the transfer clock pattern of the present invention is different from the clock pattern of Ishida relying in the features discussed above with respect to claims 5-8 (see Re. Claims 5-8 above). In addition, it is noted that the features upon which applicant relies (i.e., "the present invention synchronizes the clock pattern by using PLL, and records the clock pattern on a magnetic recording medium" (page 6, 1st paragraph of Applicant

Remarks) are not recited in the rejected claim(s). Thus, such features that makes the transfer clock pattern of the present invention different from the clock pattern of Ishida are not recited in the claim. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

2. Applicant's arguments with respect to claims 1,9-10,15 have been considered but are moot in view of the new ground(s) of rejection. The applicant does not, however, specify what kind of servo information is excluded from the preformat information.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 5-8 are rejected under 35 U.S.C. 102(a) as being anticipated by Ishida et al. (US 6,529,341 B1).

As to Claim 5, Ishida et al. discloses a magnetic recording medium comprising: a servo information pattern of preformat information patterns, which is recorded by magnetic transfer (col.3, line 63-col.4, line 6); and a transfer clock pattern synchronized with the servo information pattern (col. 4, lines 43-54 & col.9, lines 36-37 and as depicted in FIG.1).

As to Claim 6, Ishida et al. further discloses the magnetic recording medium according to base Claim 5, which has a circular form in a plan view, wherein the transfer clock pattern is recorded on an inner or outer periphery portion of the magnetic recording medium (col.10, lines 5-10).

As to Claims 7 & 8, Ishida et al. further discloses information is recorded by a perpendicular magnetic recording method (col.16, lines 30-35).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 1-4, 9, 10,15 rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (US 6,529,341 B1) in view of Tsuyoshi et al. (4,748,611).

Ishida et al. discloses a preformat method (col.8, lines 40-44) for a magnetic recording medium (col.3, line 55), for recording preformat information including servo information on a magnetic recording medium by a magnetic recording apparatus including a recording head (col.3, line 58), comprising steps of recording at least the servo information of the preformat information on the magnetic recording medium by magnetic transfer (col.3, line 63-col.4, line 6).

Ishida et al. does not explicitly teach recording preformat information excluding the servo information on the magnetic recording medium by the recording head.

However, Tsuyoshi et al. is relied for disclosing such (as depicted in Figs5a-5f). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to implement Tanaka's technique to modify Ishida's method the motivation being because it would provide the method disclosed by Ishida with the capability of recording ID information and synchronization signal without reducing the data recording area (as Tsuyoshi teaches in col.3, lines 55-60).

As to Claim 9, it is drawn to the apparatus of Claim 1 and is therefore rejected for the similar reasons set forth in the rejection of Claim 1, respectively.

As to Claims 10 & 15, in the obvious combination of Ishida et al. further shows the magnetic recording medium has a transfer clock pattern, which is synchronized with the servo information pattern, recorded thereon in advance by magnetic transfer (col. 4, lines 43-54 & col.9, lines 36-37 and as depicted in FIG.1), and Tsusyoshi et al. further discloses a phase synchronizing unit for synchronizing a phase of a clock of the recording head for recording information with a phase of a transfer clock obtained by reproducing the transfer clock pattern by the reproducing head (col.6, line 60- col7, line 55 of Tsuyoshi et al.).

As to Claim 2, Ishida et al. further discloses a preformat method (col.8, lines 40-44) for a magnetic recording medium (col.3, line 55), for recording preformat information including servo information on a magnetic recording medium by a magnetic recording and reproducing apparatus (col.4, line 10) including a recording head (col.3, line 58) and reproducing head (col.3, line 60), comprising steps of recording at least the servo information of the preformat information on the magnetic recording medium by magnetic transfer (col.3, line 63-col.4, line 6); reproducing preformat information recorded by magnetic transfer (co.13, line 38-39); fining a pattern of the reproduced preformat information (col.8, lines 4-5).

As to Claims 3 Ishida et al. further discloses a preformat method (col.8, lines 40-44) for a magnetic recording medium (col.3, line 55), for recording preformat information including servo information on a magnetic recording medium by a magnetic recording and reproducing apparatus (col.4, line 10) including a recording head (col.3, line 58) and reproducing head (col.3, line 60), comprising steps of recording at least the servo information of the preformat information on the magnetic recording medium by magnetic transfer (col.3, line 63-col.4, line 6); recording a transfer

clock pattern, which is synchronized with a pattern of the servo information, on the magnetic recording medium (as depicted in FIG.1, col. 4, lines 43-54 & col.9, lines 36-37). Ishida et al. fails to explicitly teach recording preformat information excluding the servo information on the magnetic recording medium by the recording head.

However, Tsuyoshi et al. is relied for disclosing such (as depicted in Figs5a-5f). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to implement Tanaka's technique to modify Ishida's method the motivation being because it would provide the method disclosed by Ishida with the capability of recording ID information and synchronization signal without reducing the data recording area (as Tsuyoshi teaches in col.3, lines 55-60).

As to Claim 4, Ishida et al. discloses a preformat method (col.8, lines 40-44) for a magnetic recording medium (col.3, line 55), for recording preformat information including servo information on a magnetic recording medium by a magnetic recording and reproducing apparatus (col.4, line 10) including a recording head (col.3, line 58) and reproducing head (col.3, line 60), comprising steps of recording at least the servo information of the preformat information on the magnetic recording medium by magnetic transfer (col.3, line 63-col.4, line 6); reproducing preformat information recorded by magnetic transfer (co.13, line 38-39); fining a pattern of the reproduced preformat information (col.8, lines 4-5).

Ishida et al. does not explicitly teach and recording the fined preformat information on the magnetic recording medium by the recording head.

However, Tsuyoshi et al. is relied for disclosing such (as depicted in Figs5a-5f). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to implement Tanaka's technique to modify Ishida's method the motivation being because it would provide the

method disclosed by Ishida with the capability of recording ID information and synchronization signal without reducing the data recording area (as Tsuyoshi teaches in col.3, lines 55-60).

4. Claims 11, 14, 16 & 19 are rejected as being unpatentable over Ishida et al. in view of Tsuyoshi et al. further in view of Yamakoshi (US 6,381,292).

The teachings of Ishida et al. in view of Tsuyoshi et al are incorporated herein. The combination of Ishida and Tsuyoshi et al discloses the magnetic recording and reproducing apparatus according to Claims 9,10,15, but failed to explicitly disclose a frequency-multiplying unit for multiplying a frequency for recording information in a clock finer than the transfer clock. However, Yamakoshi discloses a phase synchronizing apparatus, which includes a frequency multiplying unit (as depicted in FIG.4 & col.6, lines44-66). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a phase synchronizing circuit including frequency multiplier as taught by Yomakoshi, in the system of Ishida and Tsuyoshi et al, because it would provide the system of Ishida and Tsuyoshi et al with the enhanced capability of adjusting the signal to a desired predetermined amplitude (col.6, lines 44-45 of Yomakoshi).

5. Claims 12 & 17 are rejected as being unpatentable over Ishida et al. in view of Tsuyoshi et al, further in view of Tanaka et al. (US 5,680,267). The teachings of Ishida et al. in view of Tsuyoshi et al are incorporated herein.

The combination fails to disclose a phase difference detecting unit for detecting a phase difference between a transfer clock which is obtained by reproducing the transfer clock pattern by the reproducing head and a write-once clock which is recorded by the recording head.

However, Tanaka et al. discloses such on (col. 7, lines 63-col.8, line 4). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use a phase difference detecting unit as taught by Tanaka et al. on the magnetic recording reproducing apparatus as taught by Ishida and Tsuyoshi et al, because it provide the system with the enhanced capability of synchronizing the phase lock loop clock of the phase lock loop circuit in a series of sequences, thus allowing the phase to be pulled up quickly into the locked stage. In addition it allows reducing the time of the shift time to the synchronization state (col.9, lines 51-59 of Tanaka et al.).

6. Claim 18 is rejected as being unpatentable over Ishida et al. in view of Tsuyoshi et al and Tanaka as applied to claim 17, further in view of Yamakoshi (US 6,381,292).

The teachings of Ishida et al. in view of Tsuyoshi et al and Tanaka are incorporated herein. The combination of Ishida, Tsuyoshi et al and Tanaka teaches the magnetic recording and reproducing apparatus according to Claim 17, but failed to explicitly disclose a frequency multiplying unit for multiplying a frequency for recording information in a clock finer than the transfer clock.

However, Yamakoshi discloses a phase synchronizing apparatus, which includes a frequency multiplying unit (as depicted in FIG.4 & col.6, lines44-66). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a phase synchronizing circuit including frequency multiplier as taught by Yomakoshi, in the system of Ishida and Tsuyoshi et al, because it would provide the system of Ishida and Tsuyoshi et al with the enhanced capability of adjusting the signal to a desired predetermined amplitude (col.6, lines 44-45 of Yomakoshi).

7. Claim 13 is rejected as being unpatentable over Ishida et al. in view of Tsuyoshi et al, further in view of Tanaka et al. (US 5,680,267), further in view of Yomakoshi (US 6,381,292).

The teachings of Ishida et al. in view of Tsuyoshi et al and Tanaka et al. are incorporated herein. The combination disclosed a magnetic recording and reproducing apparatus according to claim 12, but failed to explicitly disclose a frequency multiplying unit for multiplying a frequency for recording information in a clock finer than the transfer clock.

However, Yamakoshi discloses a phase synchronizing apparatus, which includes a frequency multiplying unit (as depicted in FIG.4 & col.6, lines44-66). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a phase synchronizing circuit including frequency multiplier as taught by Yomakoshi, in the system of Ishida and Tsuyoshi et al, because it would provide the system of Ishida and Tsuyoshi et al with the enhanced capability of adjusting the signal to a desired predetermined amplitude (col.6, lines 44-45 of Yomakoshi).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dismery E. Mercedes whose telephone number is 571-272-7558. The examiner can normally be reached on Monday - Friday, from 9:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dismery E Mercedes
Examiner
Art Unit 2651

DM

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